

Notice of Allowability

Application No.

10/728,963

Examiner

Jennifer Doan

Applicant(s)

NIITSU ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 6/29/06.
2. ☒ The allowed claim(s) is/are 1-3 and 6-13.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 20060814.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Jennifer Doan

EXAMINER'S AMENDMENT AND STATEMENT OF REASONS FOR ALLOWANCE

Response to Amendment

1. Applicant's amendment filed on June 29, 2006 has been fully considered and entered.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jesse O. Collier on August 11, 2006.

The application has been amended as follows:

Please cancel claims 15 and 16.

Please cancel claim 13 and insert as follows:

- - 13. A method for manufacturing an optical wiring board including:

a support board; and

an optical component having:

an optical waveguide, which has a plate shape and has at least two end faces; and

an optical fiber connected to at least one of the end faces of the optical waveguide optically, and

a light diffusion member having a diffusion portion for diffusing light,
wherein
the optical component is placed on the support board;
the light diffusion member is disposed at one of:
a position between the one of the end faces of the optical
waveguide and the optical fiber; and
a position of the other of the end faces of the optical waveguide;
particles having different refractive index from each other are dispersed in
the light diffusion member;
the method comprising:
temporarily securing the optical component on the support board
using one of adhesive and a tape;
simultaneously sealing the optical waveguide and the optical fiber
to the support board by resin over the one of the adhesive and the tape; wherein
the temporarily securing is conducted using adhesive having a
refractive index equal to those of the optical fiber and the optical waveguide; and
the temporarily securing includes filling a gap between an end face
of the optical fiber and an end face of the optical waveguide with the adhesive. - -

Reasons for Allowance

3. Claims 1-3 and 6-13 are allowed.
4. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to disclose or reasonably suggest all the limitations recited in independent claims 1, 11 and 12. Specifically, the prior art of record fails to disclose an optical bus system comprising an optical wiring board which includes an optical component having an optical waveguide, which has a plate shape and has at least two end faces; and an optical fiber connected to at least one of the end faces of the optical waveguide optically; and a light diffusion member having a diffusion portion for diffusing light, wherein the light diffusion member is disposed at one of a position between the one of the end faces of the optical waveguide and the optical fiber; and a position of the other of the end faces of the optical waveguide; and the optical component further includes an inflow prevention member for preventing the resin from flowing into the diffusion portion of the light diffusion member in combination with the other limitations of claims 1, 11 and 12.

Claims 2, 3 and 6-10 depend from claim 1.

The prior art of record also fails to disclose or reasonably suggest all the limitations recited in independent claim 13. Specifically, the prior art of record fails to disclose a method for manufacturing an optical wiring board including an optical component having an optical waveguide, which has a plate shape and has at least two end faces; and an optical fiber connected to at least one of the end faces of the optical waveguide optically; and a light diffusion member having a diffusion portion for diffusing light, wherein the light diffusion member is disposed at one of a position between the one of the end faces of the optical waveguide and the optical fiber; and a position of the other of the end faces of the optical waveguide; the method further comprising the

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temporarily securing is conducted using adhesive having a refractive index equal to those of the optical fiber and the optical waveguide; and the temporarily securing includes filling a gap between an end face of the optical fiber and an end face of the optical waveguide with the adhesive in combination with the other limitations of claim 13.

The newly cited reference, Kuhara et al. (U.S. 6,733,190), discloses an optical component having a fiber connected to the laser diode which are placed on the substrate and sealed to the substrate by resin. However, Kuhara et al. do not particularly teach a method and an apparatus of an optical wiring board including an optical component having a light diffusion member for diffusing light, wherein the light diffusion member is disposed at one of a position between the one of the end faces of the optical waveguide and the optical fiber.

Claims 1-3 and 6-13 are therefore allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to

3:30pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JD

August 14, 2006